POLITICS OF POLITICAL ECONOMY: REVISITING ELINOR OSTROM AND GARRETT HARDIN

Will Parsley

TC 660H
Plan II Honors Program
The University of Texas at Austin

November 29, 2016

_____

Dr. Alexandra K. Wettlaufer
French and Italian, Plan II Honors
Supervising Professor

_____

Joseph Bailey Jr.
Plan II Honors
Second Reader

ABSTRACT

Author: Will Parsley

Title: Politics of Political Economy: Revisiting Elinor Ostrom and Garrett Hardin

Supervising Professors: Dr. Alexandra K. Wettlaufer and Joseph Bailey Jr.

The goal of this thesis is to provide perspective on Prof. Elinor Ostrom's (d. 2012) challenges and achievements in the field of Political Economy. Her works, chiefly *Governing the Commons: The Evolution of Institutions of Collective Action* published in 1990, are emblematic of a consensus change in the lens through which policy makers, economists, and everyday human beings view management of shared natural resources. Elinor "Lin" Ostrom's thinking typifies that of the model 21st-century political economist: combining creative vision with dogged empirical research to address wholly new and distinctly modern sets of problems. Professor Ostrom tackled problems such as wildlife preservation, urban water management, and fishery conservation among others. Despite receiving the Nobel Prize in Economics in 2009, her body of work on institutions for collective action is often undercut by its unearned reputation as a direct rebuttal to Garrett Hardin's controversial essay "The Tragedy of the Commons," published in 1968. However, Ostrom's work stands alone. A clear-eyed review of political economics reveals the triumph of her indomitable conviction in her method over barriers created by gender-prejudice.

Introduction

Political Economy is young academic field that features creative combinations of economics, political science, and ecology to solve humankind's oldest resource problems. The story of the new field's inception is a story of people. Professor Elinor Ostrom and Professor Garrett Hardin are two of the most remarkable figures of Political Economy They revolutionized theory and research within the field through their empirical analysis as much as their unique grit, background, and personality. Moreover, both were able to increase discussion of common-pool resource problems through very different means and within very different communities.

These professors address the world's largest questions with their work as much as their lives. Their work can be applied to overpopulation potential, environmental conservation, property rights laws, and outer space governance. Their life stories illuminate gender-biases and academic elitism that still persist into 2016. Although Hardin and Ostrom were commonly understood to be in competition with one another during their lifetimes, both agreed finding a solution to the problem of rapidly increasingly population and subsequent changes in resource management was vitally important to humankind's future. Moreover, both professors' backgrounds, Hardin in Biology and Ostrom in Political Science, create the differentiation necessary to innovate traditional ideals. Ostrom's story, in particular, illuminates a pervasive and abiding bias against women advancing in the academic community. However, the strength of her ideas and her faith in the process, Ostrom's perseverance in the face of professional adversity and apathy, broke through.

The Tragedy of the Commons Parable

The story of the tragedy of the commons first emerged as a response to the British Industrial Revolution in the early 19th century. The rapidly growing economic production confronted the United Kingdom with an entirely new set of capacity-related problems. Born in 1794, the writer William Forster Lloyd was especially cognizant of this unprecedented population growth, spurring him to write “Two Lectures on the Checks to Population” in 1833. Lloyd sought to demonstrate the unavoidable catastrophe that individual actors can create for the population as a whole. To voice his concerns, he created a hypothetical story centered around grazing cattle in a shared pasture.

According to Lloyd, a pasture that is unowned and available to all will be exploited without the presence of regulation: “Each [cattle] herder’s self-interest is to maximize his use of the commons at the expense of the community at large” (Adler, "Property Rights and the Tragedy of the Commons"). With the addition of each cow, a herder’s potential benefit, in the form of income generated off the cow, is high. However, “the costs of overgrazing the pasture are distributed among every user of the pasture” (Adler, "Property Rights and the Tragedy of the Commons").). “In an enclosed pasture,” Lloyd argues, “there is a point of saturation... beyond which no prudent man would add to his stock” (Lloyd 473). However, because the pasture is shared in common, not privately owned, individual herders will not heed or care about the point of saturation as their addition is merely a drop in a bucket. Inevitable devastation for all herders will ensue when the pasture is fatally overgrazed, the inevitability making the situation tragic by definition.

Labeling the Features of Lloyd's Metaphor

The physical land in Lloyd's metaphor is a "non-excludable good" in this instance because it is open to all, and, as Mansfield explains, "the individuals who make no contribution benefit as much as or more than those who contribute" to the upkeep of the grazing field (Mansbridge 591). This assumes the individuals are using the pasture to graze and maintain their herd of cattle for profit. These exploitive non-contributors are known as free riders. In an instance of a non-excludable good, a "collective action problem" surely arises.

There are three possible solutions to a collective action problem. The first is to privatize the land, a method often advocated by Prof. Garrett Hardin. Hardin believes privatizing the land (i.e. dividing land into parcels and granting individual ownership) will achieve privatization of environmental costs. Privatizing the costs eliminates the problem of free riders, in theory, because each owner will be the sole bearer of destroying their land through overgrazing. The second method is to "use a combination of socialization, guilt, religion and philosophical reason to create and maintain internal sanctions against free-riding" (Mansbridge 591). Elinor Ostrom often supports methods of this nature. She believes herders must collectively and collaboratively work together to ensure the best possible outcome for all. Thirdly, the problem can be solved through "external sanction" usually determined by a higher regulatory authority.

The specific subset of collective action problems that Elinor Ostrom studies involve a class of non-excludable resources called "common-pool resources." They are defined as "resources that are renewable and are present in situations in which substantial scarcity presents the possibility that users may substantially harm one another; yet the possibility

of producing major external harm is foreclosed" (Axelrod 581). Examples of common-pool resources include commercial fishing waters, grazing fields, water resources, and oil reserves, among many others.

Collective action problems involving common-pool resources have increased in importance given the ever-expanding resource demand needed to sustain an enormous human population of planet earth. Moreover, the ability to study these problems has substantially increased since the 1950s, due largely in part to game theory. Game theory is "the study of mathematical models of conflict and cooperation between intelligent rational decision-makers" (Myerson 1). This analysis assumes human actors will choose a given course of action in respect to what they feel their counterpart, or opponent, will do. William Forster Lloyd's essay proves that the fundamental components of game theory have certainly been at least subconsciously or inherently understood well before the 1950s. However, as Harvard policy professor Jane Mansbridge notes, before game theorists "we did not have the intellectual tools to single out as analytically central the fact that certain goods have an intrinsic character such that it is impossible or highly costly to exclude non-contributors from their benefits" (Mansbridge 591). Game theory mathematically proved the existence of free riders and, thus allowed academics such as Elinor Ostrom to safely operate upon these assumptions.

Academics have long been pessimistic of trusting findings claiming to solve collective action problems. As Professor Jane Mansbridge laments, "there is an inbuilt trajectory to failure in collective action" (Mansbridge 590). Debate continues to rage as to whether there is a best of the three aforementioned methods. However, most interested parties would agree that solving collective action problems "is certainly the most

important problem of our time. It shapes the dynamics of global warming, the environment generally, nuclear proliferation, taxes, health care provision, and most other issues for which human beings have devised (or failed to devise) public governing systems“ (Mansbridge 590).

William Lloyd was well before his time in identifying this instance of game theory analysis. However, his greatest contribution to academics remains originating the concept of “commons” within the political, economic, and ecological contexts. While he failed to specify constituent qualities needed to define the commons fully, many have since assumed the mantle. The commons has become a buzzword in academics. Multiple academic disciplines use the word with interminable definitions and variances. However, one man is often credited with its modern proliferation and that man is not William Forster Lloyd. That man is Professor Garrett Hardin.

Garrett Hardin

Born in 1915, Garrett Hardin experienced his adolescence and early adulthood amidst the trying years of the Great Depression. Nonetheless, Hardin received an incredible education by today’s standards, attending University of Chicago for his undergraduate degree in zoology and Stanford for his microbiology Ph.D. Hardin applied this education immediately by joining the Carnegie Institute, cultivating algae for use in food. However, it appears that Hardin was unsatisfied with the nature of his research. As Prof. Carl J. Bajema conveys, “[Garrett’s] heart was not in the business of trying to just temporarily solve population problems by increasing supplies” (Bajema 195). Distrust of creating artificial additions to a resource pool, such as food resources through algae

cultivation, would later prove to be foundational in Hardin's ecological writing. For now, it would serve as reason enough to change his career trajectory.

In 1946, Hardin left the Carnegie Institute to assume a teaching role in the biology department of the University of California at Santa Barbara. As a strong advocate of the Socratic teaching method, Hardin sought to revolutionize the way by which his students approached the notoriously dense topic of biology. He took quickly to his new role as educator, publishing a textbook, *Biology: Its Human Implication* in 1949. This textbook, according to Bajema, "broke new ground by presenting biology through the teaching of the scientific method" (Bajema 195). Hardin won praise for his ability to communicate the vast amount of material with order and cohesion. His attention to clear communication was predicated on his opinion that "language could be used to prevent thought as much as it can be used to encourage thought" (Leeper 785). Hardin concluded that a mastery of writing skills could further nullify "the literacy filter" which he describes as people's "ability to understand what words really mean" (Bajema 196).

Throughout the 1950s and 1960s, Hardin continued to play a pivotal role in creating biology curriculum for secondary levels of education. In 1960, he was appointed to the Board of Directors of the Biological Sciences Curriculum Study. Considering his academic pedigree, experience in applied research, in-class teaching and success in textbook authorship, Hardin seemed poised to join the next generation of trailblazers in extending the great legacy of American biological sciences. How, then, would Garrett Hardin later become known as "the bad boy of biology"? How, then, would Hardin become most widely read by economists and political scientists?

Hardin appears to have engaged in a tremendous amount of independent reading and research in the field of ecology, a hobby that would ultimately cannibalize his attention to microbiology. He had a particular affinity for pondering questions of population growth and population thresholds, an obsession that first bloomed while attending the University of Chicago. To Hardin, the study of ecology represented the academic vehicle through which he could have an impact on what he considered to be humankind's greatest issue—the population problem. Overpopulation and measures prohibiting further degradation of environmental resources consumed his research. Ecology was part biology, part geography, and part economics. Ecology allowed Hardin to exercise his inner philosopher in conjunction with his honed abilities as a disciplined man of biological science. This hybrid academic self-image satiated Hardin's appetite for addressing the root of the resource issue he felt so discontented with at the Carnegie Institute.

By the time of his death, Hardin had published 27 books and 350 articles, writing extensively in the field of ecology. Garrett Hardin and his wife, Jane, died in 2003, at 88 and 81, electing to take their own lives in lieu of succumbing naturally to their accumulating ailments. This decision to take their own lives signifies Garrett Hardin's ultimate conviction in his beliefs and his flair for the unusual. He did not believe more resources should be expended keeping him alive. This consistency was noted by many: "friends say the Hardins practiced what they preached by collecting rainwater to drink, recycling, composting, and eschewing newspapers because they squander newsprint" (Holden 1). Although Hardin studied microbiology and wrote within ecological contexts, his works are referenced extensively within policy analysis, economic theory, governance

theory, and a myriad of other fields. He died a heavily debated author known for igniting fresh dialogue on topics surrounding human resource management.

Although Hardin appears to have accomplished an incredible amount in one lifetime, I will argue that his work had a detrimental effect on the findings of Elinor Ostrom, albeit unintentional. Hardin's determination to say "what words really mean" actually led him to say and claim truly obnoxious, objectionable, and detestable things. His readership, consisting primarily of ecologists or academics in social science fields, was highly critical. This is especially important given that he was the primary instigator of discussion of or relating to "the commons." A deeper examination of his writing, particularly his essay "The Tragedy of the Commons," will yield a negative outlook on his foray into political economy.

The Tragedy of the Commons, 1968

Hardin's interest in ecology officially surfaced in his now-famous article "The Tragedy of the Commons," published *Science* in December of 1968. The essay became his coat of arms and would set the stage for his extensive publishing history. In the essay, Hardin employs William Forster Lloyd's metaphor of the cattle-grazing field with a considerable amount of his own embellishment. As of 1968, Lloyd's metaphor was relatively unknown in the modern American ecological and economic circles and Hardin appropriated the story to propagate his ultimate conclusion - the inevitability of humankind's tragic and destructive use of resources. The essay is unique not only in its conclusions on resource management, but also in its writing style. The 6-page essay became instantly controversial and gained notoriety quickly. The dramatic way in which

Hardin makes his points was objectively different in its orientation than many other academic papers concerning population.

Hardin's writing carries with it an air of confidence and a tone of reproach. He believes his scientific background allows him to more clearly understand the population problem. Moreover, he believes he is unabashedly realistic, as he asserts "most people who anguish over the population problem are trying to find a way to avoid the evils of overpopulation without relinquishing any of the privileges they now enjoy" (Hardin 1). He considers himself grounded and realistic, willing to face problems others are too scared to tackle. He considers "them" to be childish in their optimism, seeking to insulate their comfortable world from reproach. Hardin's tone in his writing seems to be aware that he published about the literacy filter. He refuses to soften the truth. A pillar of his attitude is his acceptance that "the population problem has no technical solution," something he presumes others researching the same issue are unable to recognize due to their weak conviction (Hardin 1). His arguments, moreover, carry vestiges of his past work, a key differentiator between him and other academics. He says, "they think that farming the seas or developing new strains of wheat will solve the problem--technologically," in reference to his former job at the Carnegie Institute (Hardin 1).

At the time of Hardin's publication in the late 1960s, early 1970s, the idea that the world could become overpopulated was trivial. Overpopulation was never featured on nightly news nor was it front of mind for average, resource-consuming individuals. This infuriated Prof. Hardin. While he was encouraged by the American public's peaking interest into environmental protection, he believed the most dangerous issue had been lost. Hardin himself mused that he saw "less [bright spots] with respect to population

than [he does] with the environment" because, in his opinion, a prerequisite to understanding overpopulation as a problem "is a recognition that we'll have to limit personal liberties" (Leeper 786).

At times, the swirling controversy around Hardin appears rooted more in Hardin's sources than his conclusions. In addition to his own theories, Hardin relied on those of the 19th-century, British Industrial Revolution-era philosopher, Thomas Robert Malthus. Malthus, the creator of the famous Malthusian Theory and Malthusian Catastrophe, remains one of the most heavily criticized theorists in the last 200 years. Malthusian Catastrophe is the general belief that human reproduction will increase at a rate exponentially faster than our resources, ultimately causing a massive drop in population. Unlike Lloyd, Malthus had received considerable attention for his work during his lifetime. Malthus posthumously became a popular punching bag of 20th- and 21st-century political economy, as many believed he had been irrevocably disproven and replaced by study of game theory. His conclusions served as an amplifier of an industrialized and vigorously expanding generation's new found worries of the scale and possibilities of natural resource destruction.

Hardin was not shy of adopting Malthus's logic despite his awareness of Malthus's reputation. As economist Klaus Hofmann corroborates, "from early on Malthus's construct has been deemed untenable" (Hofmann 1). However, Hardin understood that much had changed since 1798 when Malthus published "An Essay of the Principle of Population."

Firstly, the accuracy by which humankind measured world population had substantially improved. Hardin had access to relatively precise predictions of population

change. From the time Thomas Malthus published his essay to the time Garrett Hardin published "The Tragedy of the Commons," the population had grown from an estimated one billion people to nearly four billion people (UN Dept. Economic and Social Affairs, 1999). Moreover, the underlying capitalist economic system that enabled the Industrial Revolution had proliferated globally in that span of time. While crediting world population increase directly to a single factor, such as globalized trade, is a difficult and fruitless endeavor, the correlation is substantial. This is the same economic system that had worried Malthus and Lloyd, only much larger.

Hardin liked referencing facts such as there has yet to be a time since the 1800s where world population reached equilibrium (i.e. the net difference between the birth rate and death rate equals zero). Moreover, world population has yet to decline. In Hardin's mind, and in the minds of many observers, examining possibilities of overpopulation become more relevant with every day that passes. At the time that both Thomas Robert Malthus and Garrett Hardin published their aforementioned essays, the question of overpopulation was never more relevant.

Malthus's writing style incorporated

Malthus provided more to Hardin than merely a timeliness component; he also engendered a flair for dramatic in Hardin's writing style. Malthus's writing style was candid, pessimistic, and dramatic. For instance, Malthus indicated that in the event that many man-made population limiters, such as "war of extermination, sickly seasons, epidemics, pestilence, and plague," were to "advance in terrific array and sweep off their thousands and tens of thousands" the limiters would still fail to successfully limit

population to a sustainable level. “Should [these limiters’] success be still incomplete, gigantic inevitable famine stalks in the rear, and with one mighty blow levels the population with the food of the world” (Malthus 2).

This powerful language served the purpose of animating catastrophe for the reader, a quality of Malthus’s writing that clearly impacted Garrett Hardin. Indeed, Hardin’s work carries similar tone, as he spoke of the need to “exorcise the spirit of Adam Smith,” posited that “freedom in a commons brings ruin to all,” and remarked that “ruin is the destination toward which all men rush, each pursuing his own best interest” (Hardin 1244). He made sure to define “tragedy” as “the solemnity of the remorseless working of things” echoing Malthus’s own language, that often spoke of “moral restraint, vice and misery” (Malthus).

Malthus’s argument simplified

These arguments recognize two opposing powers existing to check one another: the power of nature and the power of population. The more available food, the more a population can grow. However, Malthus’s conclusions devolve quickly, and his message proclaims an inevitable human experience of pain and suffering due to shared costs of commons destruction. This argument is twofold: first by increasing the number of people, there are more potential people to feel pain, suffering, and hunger. Secondly, the increase in population stretches resources towards a resource breaking point. This conclusion of ruin would become known as the Malthusian catastrophe.

Tragedy of the Commons Reception

"The Tragedy of the Commons" received considerable attention from a myriad of different academic disciplines, chiefly within policy and economy circles, despite being published in the journal *Science* by a microbiologist. This attention was due in large part to his article's controversial nature. Hardin believes that humans are "trapped" in a scenario where they will inevitably bring about their ruin. The trap that Hardin believes humanity is ensnared in is often criticized. Moreover, his inability to believe in the rational problem solving capabilities of individual humans frustrated many in the field of economics. Especially infuriating was his tone, which is encapsulated by one of his proponents Prof. Carl Jay Bajema who explains "there are those shallow thinking optimists who merely extrapolate desirable trends (making some trends desirable by choosing the 'appropriate' time frame) or contend that since humans have time and again proven their resourcefulness, they have the capacity to produce a technical fix that will solve every human problem" (Bajema 208).

Tragedy of the Commons - Rejuvenating the "Commons"

"The Tragedy of the Commons" rejuvenated discussion of the ideas produced by Malthus, Lloyd, and many other thinkers considered taboo by modern standards. More importantly, the essay thrust "the commons" into the academic spotlight as a mode to discuss variables and quantities in political economics. As Elinor Ostrom stated in 2007, "Prior to the publication of [Garrett] Hardin's article on the 'Tragedy of the Commons' (1968), titles containing the words 'the commons,' 'common pool resources,' or 'common property' were very rare in the academic literature" (Ostrom).

Hardin paid attention to promoting "the commons" insofar as it served a functional benefit to his argument. His arguments were predicated on his underlying belief that with every passing day, with every birth, the world population grew one step closer to its demise. By treating the entire world's resources as the commons and employing William Forster Lloyd's cattle herding metaphor, he explored and dispatched many possible "technical solutions" to overpopulation. He ultimately arrived at his now-famous conclusion that "that the population has no technical solution, it requires a fundamental extension in morality" (Hardin, 1).

At six pages, Hardin's essay was incredibly brief considering the ambitious nature of his assertions. In this way, many different individual constituent arguments within his greater solution drew specific criticism mostly due to their brevity. For example, many critics took issue with his assumptions concerning the inevitability of human population surpassing its ability to feed itself. Hardin fails to use game theory or modeling to show his logic. Instead, he insists that proving the inquiry at a modeling level is futile, saying "the commons is justifiable only under conditions of low-population density" (Hardin 1248). Although his writing style carried with it little evidence or citation, his writing style carried confidence. Professor Hardin was masterful in creating the "impression that his thesis had a solid foundation in history" when in reality, "historians actually paid little attention to it" (Radkau 71). This was especially dangerous given that "outside the historical profession ['Tragedy of the Commons'] was often treated as proven fact" (Radkau 71).

Non-technical

The nature of Hardin's non-technical solution, in and of itself, perplexed onlookers who considered Hardin to be a man who strictly adhered to scientific method. While this style continued to be a consistent feature in the rest of Hardin's writing, it would remain tagged to the study of the commons as a whole.

Hardin's personality, when combined with these atypical interests, bred a unique blend of academic literature. Hardin felt his reputation as "the bad boy of biology" was a product of his willingness to say what other scientists were too scared to say. Coupled with his unwillingness to mince words, this cavalier attitude lent itself to many reputations over the course of his life. In an interview in 1976, Hardin said, "the message I have is a thing that many people are thinking, but they don't want to say" (Leeper 786). That message would be encompassed in his controversial essay entitled "The Tragedy of the Commons" (1968).

Although his behavior and message drew heavy criticism, he remains a founding father of an enormously important academic discussion--that of common pool resources. As Prof. Schultz explains, "Hardin's arguments inspired a generation of social scientists to examine various forms of commons dilemmas" (Shultz 1). While Hardin should be commended for his effect as a ecology discussion catalyst, his work's reputation polluted the new waters of economic analysis of the commons. To many, "The Tragedy of the Commons" highlighted the despicable, wasteful, and deadly quality of humankind's excess and greed, only this time delivered in a powerful, educated tone. Having been published in 1968, many saw his conclusion that "only selfishness can protect resources" as a challenge to "the anarcho-socialism of the sixties" (Radkau 71). Simultaneously, many economists understood Hardin to be a defender of land privatization and of "clear

property laws – be they individual or state laws – are necessary everywhere" (Radkau 71). Elinor Ostrom, who argued for a mix of both public and private land, would later dispatch his call for universal privatization of land. However, it was primarily Hardin that soured the appetite for Ostrom's later, greater work.

Elinor 'Lin' Ostrom

From beginning to end, Ostrom's academic journey differed from most economic Nobel Prize winners. Firstly, she was a woman. Secondly, her academic research began with fieldwork, measuring allocation of water resources in the greater Los Angeles area. There she began a lifelong interest in understanding how humans construct and manage the means by which they extract resources not in theory, but in practice. Later, she focused her energies toward excavating useful economic governance information from a wealth of primary-sourced works previously unreferenced within economics papers. To do so, she created a new "filing system," called the Institutional and Developmental Analysis framework (IAD). This framework allowed Ostrom's research assistants to glean empirical economic and managerial data from a wide range of published academic research. From the ever-accumulating data, Ostrom deduced her not-famous-enough theories, which she presented in her Nobel-awarded book *Governing the Commons*.

Ostrom's cross-disciplinary work changed the landscape of resource management research. The Workshop of Political Theory and Policy Analysis at Indiana University, founded by Ostrom and her husband, Vincent, in 1973, continues to develop and promote her ideas on managing the world's resources. Ostrom's work ultimately earned her the 2009 Nobel Prize in Economics, making her the first female to be awarded the prize.

While Lin Ostrom's focus was primarily on local entities, her work can and should be used in examination of world politics.

Ostrom's obstacles did not entirely arise from academic burden of proof. Ostrom's trail to success encountered many gender-related encumbrances. Moreover, her area of focus, the commons, had been muddied to the point of academic triviality by a number of American ecologists in the 1950s, 60s, and 70s. These professors, foremost among them, Garrett Hardin, had controlled much of the economic resource management discourse despite having never been formally educated in economics or political science. Hardin had no mention of fieldwork, no background in social sciences, and no intention to involve stringent research method beyond reading 19th-century ecologists. Thus, publishing about the commons, especially to Ostrom's academic peers, appeared frivolous and irrelevant to the traditional economic world. Ostrom overcame these, and many other obstacles, to ultimately begin the process of formulating a realistic understanding of best resource management practices. Even after her passing in 2012, Ostrom continues represent the cutting edge in Economic research through her framework, fieldwork, and legacy.

Examination of her most famous work, *Governing the Commons,* leads to greatest understanding Lin Ostrom's successes and trials, method and reception, and life and personality. Firstly, her many other works are extensively referenced within the book. Moreover, she provides the reader with a substantial amount of meta-commentary into her life and work. Furthermore, her book, rather than she, herself, is most often critiqued. Direct comments concerning Ostrom herself abound, but as subtext within reviews of her actual work.

Attempts to distill Ostrom's end goal, her fundamental academic purpose, are plentiful. As a general principle, Prof. Jane Mansbridge writes "Elinor Ostrom has spent her life figuring out how, over the centuries, human beings have managed to prevent tragic outcomes when a non-excludable good produces a collective action (or "free-rider") problem" (Mansbridge 590). Frank R. Baumgartner[1] assumes this political-economy context to Ostrom work, focusing more on finding Ostrom's mantra. "There is no single route, and implementation matters," he says, calling her method "observation, observation, observation" (Baumgartner 576). What Prof. Baumgartner communicates is Lin Ostrom's unique and ingenious use of a combination of research practices. By combining case study, contextual understanding, secondary research, and decision modeling, Ostrom takes "an evenhanded approach" (Baumgartner).

This "evenhanded approach" is commended many times over. However, it is open to criticism by both the field research fundamentalists, who think she tends to become ungrounded when she ventures into theory, and by the macro-theorists, who believe her fieldwork to be nothing more than wallowing in lowly detail. To best understand her struggles, analysis of *Governing the Commons'* method and academic reception and is in order.

Governing the Commons

At 216 pages, *Governing the Commons* affords the reader ample time to consider the basic question. Ostrom pauses many times within its first few chapters in order to

[1] Frank R. Baumgartner is Richard J. Richardson Distinguished Professor of Political Science at the University of North Carolina at Chapel Hill.

[2] Margaret Levi is the L. Bacharach Professor of International Studies at the University of Washington and is the

address what the book will not be. This appears to be her classic dilemma. In carving out her famous political-economic middle ground, she experiences separation anxieties. Many academics lay claim to her arguments where no connection should be found. Simultaneously, many academics disown her findings, claiming they should not be labeled as their own.

Governing the Commons served as the backbone to Ostrom's body of work. As Professor Margaret Levi[2] states, "*Governing the Commons* significantly advances the analysis of collective action, institutions, and local power. It is also innovative in its combination of theory and fieldwork" (Levi 573). Professor Nancy Bermeo[3] defends Ostrom further, saying "[Lin's] goal is clearly the creation of a practical and realistic framework for policymaking" (Bermeo 570).

GTC's Reception Over Its Life

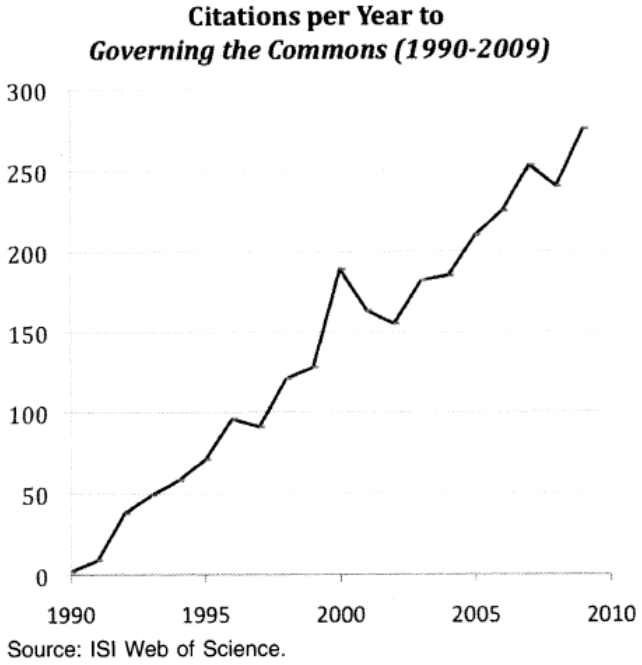
Governing the Commons has received varied attention over the course of its life. Published in 1990, the book . Moreover, in that time, interest in its findings, as measured by citations per year, increased steadily. As Prof. Robert Axelrod[4] notes, "it is interesting that after being published in 1990, *Governing the Commons* caught on slowly" (Axelrod 581). He adds, "Rather than following the common pattern of tapering off after a few years, the book actually had three times as many citations in its second decade of publication as in its first decade." (Axelrod 581). However, Bermeo advocates that among

[2] Margaret Levi is the L. Bacharach Professor of International Studies at the University of Washington and is the Chair in Politics at the United States Studies Centre at the University of Sydney.

[3] Nancy Bermeo - Nancy Bermeo is professor of comparative politics at the University of Oxford.

[4] Robert Axelrod is the Walgreen Professor for the Study of Human Understanding at the University of Michigan.

students of politics, "this study has certainly found a broad and appreciative readership in general" (Bermeo 570).



Governing the Commons' (hereafter referred to as *GTC*) positive trajectory in annual citations, resembling the snowball effect, has been rationalized by many observers. Firstly, it is important to understand the academic climate present before, during, and after its publishing. Before *GTC,* Garrett Hardin dominated discourse relating to the commons. While it was not his explicit intention to create discussion in a vacuum, most economists were happy to let it reside within the murky gray area of ecology that the Californian had created by his archaic citations and dramatic writing.

Ostrom certainly suffered due to her perceived association with Hardin's "Tragedy of the Commons." As a result, she often attempted to place herself at an arm's length in *Governing the Commons.* For instance, early in the text she observed, "much that had been

written about common-pool resources, however, had uncritically accepted the earlier models and the presumption of remorseless tragedy" (Ostrom 7). She continued distancing herself, at times proceeding in an appalled fashion. When discussing Hardin's work, she remarks that "scholars have gone so far as to recommend that Hardin's 'Tragedy of the Commons" should be required reading for all students.... And, if [the reviewer] had it [his] way, for all human beings" (Ostrom 7). She then moves to say that those who follow Hardin's logic "achieved little more than a metaphorical use of the models" (Ostrom 7). However, no matter how thoroughly Ostrom proved the fundamental differences between Hardin and herself, his image would remain attached to hers. In fact, even after her acceptance of the Nobel Prize, *New York Times* columnist John Tierney said her reception of the prize "is a useful reminder of how easy it is for scientists to go wrong, especially when their mistake jibes with popular beliefs or political agendas" (Tierney, NYTimes.com). He chastises Ostrom for attaching herself to Hardin's "buzzword," that word being "commons," before moving on to solely (and weakly) critique the crux of Hardin's points, not Ostrom's. It appears John Tierney did not take the time to understand the fundamental differences in their work. Yet, sadly, to the average *New York Times* reader, Ostrom appears wholly unfit to have won the Nobel Prize.

Having Hardin's work be recommended to be read "by all human beings" must have been difficult to digest for Ostrom, given that her own work was only slowly given recognition. Part of the issue with *GTC's* immediate reception was the base of reviewers was uncertain. Bermeo notes "most of its reviews were in public policy and economics journals. Most of its reviewers were economists or public policy specialists, and most of the major journals of the subfield (most notably *World Politics* and *Comparative Politics*)

failed to review the book at all" (Bermeo 570). Bermeo later remarked "*Governing the Commons* is not part of the modern "canon" in the subfield of comparative politics. This is both an awkward truth and an unfortunate one, because Elinor Ostrom's study offers comparativists of all sorts a long list of insights on a range of core issues" (Bermeo 570). Of course, Professor Bermeo was remarking in 2010, the year after Ostrom won the Nobel Prize. Whether or not Bermeo, among other later reviewers, should be considered a bandwagon fan is not important. What it important is understanding Hardin's negative effect on reception of Ostrom's work on the commons, whether or not he intentionally and directly created a barrier.

Governing the Commons' reception was not solely affected by Hardin's precedent. Its initial reviews were scattered. Since its Nobel recognition, a handful of academics have theorized why its reception was so uneven. Rationalizations of its initial weak reception range in technicality, with the least technical reasoning being offered by Prof. Robert Axelrod. During his review of the book, he speculates that "perhaps this was due in part to what William Mitchell decades ago described as Elinor Ostrom's "gentle, inconspicuous and unassuming manner" (Mitchell 1988). To a student of Ostrom, his description is both as infuriating as it is ignorant. In 219 pages, *Governing the Commons* rarely presents emotion, personality, or "an unassuming manner." *GTC* is a work of primary research, scientific modeling, and policy analysis. This explanation is almost certainly rooted in Elinor Ostrom's physical appearance. This explanation carries with it implicit gender bias.

It is necessary to further review the limiting factors to *Governing the Commons'* reception in detail. Ostrom herself directly recognizes these issues, whether in text or in interview. In 2010, she stated "I think for many years [*Governing the Commons*] was

ignored because it did not come up with an idealized plan. Policymakers wanted to know ‘‘the’’ important way of solving something” (May 34).

Ostrom versus Hardin

In critiquing Garrett Hardin, one risks being dragged down to his level, for indeed, as Axelrod argues “Ostrom's contribution was made possible by her refraining from the debate about the ‘tragedy of the commons’” (Axelrod 580). Moreover, many of Hardin’s direct combatants in the debate were game theorists. Ostrom was neither Hardin nor a game theorist in true fashion. This often led both sides – Hardin’s acolytes on one end, game theorists on another - to view her as their personal opponent.

Ostrom’s disassociation from Hardin hinged on disproving the inevitability of Hardin’s tragedy by advocating for the rationality of individual actors. She did so many times over in a very deft fashion. Many attribute her solid arguments to her extensive fieldwork throughout the entirety of her career. Prof. Peregine Schwartz-Shea[5] writes that Ostrom, “having watched people solving their own problems early in her career,” was “neither satisfied with the portrait of ‘helplessness’ in Hardin's tragedy of the commons nor seduced by the parsimonious elegance of game theoretic models” (Schwartz-Shea 588). Many reviewers of *GTC* seemed to picture Ostrom set directly against Hardin. This was obviously not the case, as there is no record of their direct debate in public nor private. While they both acknowledge one another, with Ostrom mentioning Hardin many times over, they never truly were set against one another. Despite this fact, Professor Robert Axelrod calls their differences of opinions a “famous debate” (Axelrod 580).

[5] Peregrine Schwartz-Shea is professor of political science at the University of Utah.

While Axelrod's labeling of the comparative analysis of their works as a "debate" extends the connotation that Ostrom had long sought to avoid, he does provide interesting perspective into their differences of opinions. He argues, "The alternatives were framed as private property vs. central authority[...] But Ostrom's observations in real world settings such as inshore fishing and allocation of irrigation water showed that repeated interactions among the users of a common resource often allowed them to build institutions that could provide effective monitoring and discipline of free riders, thereby achieving efficient and sustainable use of the resource" (Axelrod 580). Communities have organically found best practices in their resource management, a fact that Ostrom maintained faith in despite many critiques.

This faith and sensitivity to the individual actors' experience within local systems separated Ostrom from Hardin. It gave her an important perspective that was new to the political-economics field as a whole. As Prof. Robert O. Keohane[6] said, "creative political science is not principally about applying new techniques, whether borrowed from economics, statistics, or other branches of our own field, to old problems. More fundamental innovations involve thinking in new ways about problems that have stumped former generations. Ostrom has thought in new ways about politics, institutions, and cooperation under nonhierarchical conditions" (Keohane 578). This new way of thinking is best defined by Professor Peregrine Schwartz-Shea as "fieldwork sensibility."

As Schwartz-Shea elaborates, "[Ostrom's] field experiences made her question Garrett Hardin's (1968) presumption that individuals are 'trapped' and 'helpless'." (Schwartz-Shea 588). *The Tragedy of Commons* does not acknowledge how fundamental

[6] Robert O. Keohane is professor of international affairs at Princeton University.

differences in decision making humans can affect specific outcomes. In fact, Hardin neither cares to examine possible differences in collective action problems nor cares to discuss the rationality of human decision makers. Hardin remains intentionally high level. Solely relying on universal solutions and theories is likely a result of his scientific background. Yet, it seems wholly inconsistent with his endorsement of scientific method in his biology textbooks. Ostrom's tangible attunement with the real community decision makers allowed her to view the true contexts of the larger game theory being played out.

For instance, in her first research stint in graduate school, she examined local water distributions around Los Angeles, California. Ostrom took initiative to investigate a community outlier in water usage, the city of Hawthorne where "the city continued to pump more water than it had been allotted under the agreement, saving itself money and spreading those costs across other users" (Schwartz-Shea 587). While many game theorists would have drawn their conclusions about Hawthorne's inability to participate in its contractual obligation, Ostrom personally went to Hawthorne's decision makers. From the perspective of the city's leaders, the problem appeared to be multilayered. Ostrom writes, "Hawthorne viewed its needs to serve a municipality with water as superior to the needs of industry in the area" (Ostrom 120). Ostrom "revealed that for city leaders, 'the problem' was not the threat to the common-pool resource, but whether public water resources should be diverted to private, industry use" (Schwartz-Shea 587). The town thought the water was better used for their residents than to be monetized by corporate interests. Lin Ostrom proved to herself and to her research colleagues that collective action problems can be better analyzed by understanding decision makers' perspective in the case of Hawthorne.

Fundamental differences between the findings in “Tragedy of the Commons” and *Governing the Commons* originated from the earliest academic days of Garrett Hardin and Elinor Ostrom. Simultaneously, Ostrom distinguished her work from traditional game theorists through her fieldwork, for “these continued field experiences sensitized her to the need for time- and place-specific information and to the costs of acquiring such information made her question the simplicity of standard game-theoretic and economic models with their assumptions of perfect information” (Schwartz-Shea 587). Assumptions against perfect information took many forms. For instance, she refused to "assume bureaucrats are always budget-maximizers" (Schwartz-Shea 587). This attitude is a more specific reflection of her overarching view that one should seek to understand and to be understood deeply. As Prof. May states, Ostrom’s “insights [are] often at odds with views of human nature inherent in much of economic theory” (May 1).

Ostrom also took issue with Hardin’s dramatic tone. She believed that Hardin allowed his vision of the impending tragedy to transcend the importance of his technical argument. As Prof. Bermeo posited, “whether a crisis exists or not, those who wish to implement rapid institutional change have incentives to use the language of crisis” (Bermeo 571). Ostrom supported this assertion, saying people like Hardin tend to “weight potential losses more heavily than potential gains" while studying collective action problems (Ostrom 208). His appeal to disaster was a marketing advantage of “The Tragedy of the Commons.” Prof. Bermeo believes that because he framed his theory as a “means of avoiding imminent disaster, [he] takes advantage of this differential weighting“ (Bermeo 571). Ostrom shows us she is able to exercise her aforementioned “even-handed” approach by maintaining an even-headed calm during her research. Her aspects

of differentiation from Hardin ultimately contributed to scholarship worthy of receiving the Nobel Prize in Economics.

Nobel Prize in Economics

Ostrom's acceptance of the Nobel Prize should have represented a victory for the field of political-economics, the idea of "the commons," and for women in academia. In many ways, it did. The award was a pure and formal acknowledgement of political-economics inclusion under the economics umbrella. To Ostrom, the prize represented an exciting newfound platform to market her findings to both economists and the general public. *Governing the Commons* was set to become part of the economics' "canon" of must-read, field-changing works. However, the award failed to yield the aforementioned results to the magnitude Ostrom and many other female academics would have thought. The prize's effect is best summarized by Prof. Jane Mansbridge when she writes that "when the Nobel Committee awarded Ostrom the 2009 Prize in Economics, it might have drawn the attention of the general public to this problem," yet it failed to achieve even wide readership in the economic academia (Mansbridge 591).

In many ways, reactions to the announcement parallel reactions Ostrom had been receiving over the course of her life. There was distaste for the media's acknowledgement of her gender. There was a continued focus on her "debate" with Garrett Hardin. There was reinforcement of her exclusion from traditional economics. The Nobel prize did not change Lin Ostrom's problems so much as it highlighted them. Women have been historically underrepresented within the ranks of Nobel Laureates. For instance, Elinor Ostrom and the three other women in her 2009 class, brought the total number of female

Nobel Laureates to 17 which "represents only 2.8% of the membership of this exclusive club" ("2009 Nobels: Break or Breakthrough for Women?", 656). As previously mentioned, Ostrom was the first woman to win the award in Economics.

Moreover, the award surprised many in the field of Economics, who believed the award belonged to a more conventional work and author. Professor Ben Fine[7] speculates that "apart from those working in a particular way on institutional or environmental economics, she would have been known to few economists [at the time she received her Nobel Prize]" (Fine 583). It appears that Ostrom was the minority in receiving the award in two different ways, both in gender and traditional economic circles. This point was not lost on observers, particularly academics who believed her work was not purely economic enough to merit the award. Unfortunately, the Nobel committee's description of the award was irresolute in its defense of her work's rightful place. When describing their reasoning, the committee seemed to hedge their admonishment of her work. The committee has received small amount of criticism about taking a "narrow view," that appeared to be "designed to explain its choice to an audience of economists" (Mansbridge 591). This specifically took away from the larger potential "to educate the public on the broader dynamic of free-rider problems." Moreover, they failed to market the massive benefit educating the public could provide, "a dynamic that has the potential to end life as we know it"(Mansbridge 591).

The idiosyncratic nature of Ostrom being awarded a Nobel prize in Economics is important in and of itself. It is unfair to say the reception was wholly negative. University of London Economics professor Ben Fine acknowledged this "idiosyncratic nature," but

[7] Ben Fine is professor of economics at the School of Oriental and African Studies, University of London.

maintains that "her work clearly has had an impact sufficient to merit the prize" (Fine 583). He continued, calling the award "somewhat paradoxical." He ultimately presents a defense of both Ostrom's arguments and the committee's selection, saying *Governing the Commons* is "so attractive to at least some economists, even though that work would seem far from the economics mainstream" (Fine 583).

In giving Ostrom the award, the committee understood its opportunity to redefine the parameters of the award, reshaping the way economists must look at their specialty. Ostrom was perfect candidate to bring the field of economics into the 21st century, able to represent change through her hybrid analysis and gender. Professor Ben Fine echoes this sentiment, saying her work "reflects, modifies, and yet reproduces the colonization[8] of the other social sciences by economics" (Fine 583). Unfortunately, the Nobel Prize echoed issues of gender and traditional economic politics that had been present in Ostrom's career. After receiving the award, the ensuing discussion centered around her academic findings as well as her gender and "debate" with Garrett Hardin.

Hardin's Relation to Ostrom's Institutional Struggles - Gender & Traditional Economics

In many ways, Garrett Hardin exacerbated Elinor Ostrom's lifelong struggles. To Elinor Ostrom, he represented the dominating, unbridled male voice present within academic discourse, able to speak before thinking. To traditional economists, Hardin

[8] Professor Ben Fine comments immediately after his aforementioned quote, saying "such talk of 'colonization' would no doubt be rejected by Ostrom" (Fine 583). This highlights the unaggressive manner Ostrom must have carried herself.

represented a clear separation of the traditional study of economics from the "commons."

Gender Struggles

Ostrom's barriers to entry began in her childhood years. Elinor Ostrom experienced gender-related hindrances and criticisms at nearly every critical point of her life, starting as early as her high school counseling, where "she was discouraged from enrolling in calculus, which kept her from taking further math courses as an undergraduate" (May 2). Her lack of calculus experience affected the trajectory of the rest of her career. As Ostrom said in 2009, "I think that the presumption that women did not have good mathematical skills is what kept many women out of the discipline of economics" (May 32). Her lack of calculus would affect the rest of her higher education. She continued, saying "when I applied for graduate school to both the economics and political science departments at UCLA, I was rapidly turned down by the economics department because I did not have mathematics in my undergraduate training. That went all the way back to high school counseling" (May 32).

In an interview with two Indiana University reporters on the day she received her Nobel Prize, Ostrom acknowledged struggles she faced due to her gender, saying "there was no encouragement to think about anything other than teaching in high school or being pregnant and barefoot in the kitchen'' (Brad Zehr and Biz Carson 2009). She has since participated in multiple interviews, many of which probed into Ostrom's views on the significance of her award for women, her trials as a woman, and her views on the future for women in economics. While she voluntarily submits herself to questioning

about gender, Elinor Ostrom only acknowledges gender when asked. Often times, she diverts the interviewer to a more academic discussion about her research findings.

Ostrom seemed to be committed to her ideas more than to retelling the story of her life, itself. But, women within the field of economics, like many other fields of academic studies, number few. May notes "[Ostrom] received her doctorate in 1965 at a time when only about 12 percent of doctorates in political science (and 4 percent of doctorates in economics) were awarded to women" (May 31). This fact was not lost on Ostrom. Her Nobel class of 2009, featuring four women, singlehandedly raised the percentage number of women recipients by 31%. Whereas, before 2009, "gender as a category of analysis in economics has historically been either absent or underdeveloped" (May and Sommerfield 30).

Elinor Ostrom received her first teaching job at Indiana by remaining prepared and awaiting opportunity. Her husband, Vincent, had already been on the staff and had been sure to monitor job openings. Ostrom recounts that Indiana University "eventually needed someone to teach an undergraduate course on American government on Tuesday, Thursday, and Saturday mornings, and I was willing to do this." (May 32). The hiring of Elinor Ostrom appears to have been made by IU completely in respect to administrative convenience.

Ostrom, for the most part, dodges questions about gender, often redirecting questions towards her research work. For instance, in an interview with Prof. May in 2011, May points out the Workshop's disproportionate number of women given the general graduate students percentage of women. Ostrom replied with surprise in short fashion, remarking "I had not known the picture showed a disproportionate number of

women in the 1970s, but now as I am thinking about it, I am not too surprised. Since we have not made decisions on the basis of gender, women have had a good opportunity to be active participants at the Workshop" (May 33).

Ostrom's dedication to her research affected her life in many ways. Notably, Ostrom elected not to have a family with her husband. She openly discussed this fact, saying "I made the decision not to have a family because, in earlier times, that would have been a very, very difficult thing to accomplish" and "as a somewhat older participant, I had a clear [choice]" (2009 Interviews of Women Nobel Prize recipients 657). This ultimate dedication led to her eventual success. However, many women who began graduate programs within political science or economics failed to complete their degrees due gender-related discouragement. Ostrom specifically recounts a former colleague's troubles in an interview saying "I do know a bit about the career of one other woman graduate student who was in my entry class. She did become so depressed over academic problems that she took a draft of her dissertation and burned it and moved out of academia entirely" (Ostrom to May, 32). This fact further highlights Ostrom's perseverance.

Traditional Economics

Economics, in this instance, refers to the community of people who consider themselves to actively research, teach, study, and publish on the field of economics. This small, male-dominated community is particularly protective of the right to consider oneself "an economist," as if the title is as definite as the designation "M.D." Professor Ben Fine attributes this territorial behavior as the culprit responsible for "an extraordinary

ignorance to alternative schools of economics," especially "relative to other social sciences" (Fine 583). This "extraordinary ignorance" appears to be intentional, evidenced by the academic reaction upon Elinor Ostrom's acceptance of the Nobel Prize. The reactions to Ostrom's *Governing the Commons* often include a wide range of examples pointing to Ostrom's anti-economic-ness.

Professor Peregrine Schwartz-Shea does an incredible job summarizing underlying and "intertwined tensions" in Ostrom's research:

> A tension between the universalizing assumptions of the rational-actor model and her desire to understand the perspectives of actors in the field; a tension between her preference for self organizing systems and her policy-analytic role of advising governmental and other decision makers; and a tension between her advocacy for a 'general framework' (or 'behavioral approach') for researchers and her critique of 'universal solutions.'(Schwartz-Shea 589)

These tensions create holes to attack for many economist-detractors. However, Ostrom views her own existence within these tensions as intrinsically important to her research. She has not fallen into the fray of these tensions so much as she strived to enter them. They are new academic territory. She writes that "relying entirely on models to provide the foundation for policy analysis" leads scholars to "presume that they are omniscient observers, able to comprehend the essentials of how complex, dynamic systems work by creating stylized descriptions of some aspects of those systems" (Ostrom 215). In this particular instance, she proposes her "fieldwork sensibility" as a humbling feature. Sensitivity to the mindset of the actors in her case studies is not as un-

mathematical as it is a display of humility and a realistic assumption about the extent of her abilities.

This willingness to exist in these tensions in order to achieve fundamentally different conclusions is inherently backwards to many people in the strict and orderly field of economics. Ostrom navigates the gray area with ease unique to her. "Not only is she comfortable with the ambiguity and messiness associated with how institutions evolve over time, but she can also handle herself in a fight" contends Professor Frank R. Baumgartner of UNC Chapel Hill (Baumgartner 575). This ability and willingness to embrace "messiness" allowed her work to transcend one particular academic silo, such as economics. Her work is incredibly malleable. It has been referenced in property damage litigation, environmental pollution studies, police organization hierarchy studies, and many other fields. Ostrom's work is sometimes characterized as "middle-range theory, suspended somewhere between the individual and society[...] and between minutiae and grand historical and social issues" (Fine 583).

Ostrom's views of common-pool resources and 'the commons' extend not only to how she grouped units within her literal research, but also extends to how she views academic research as an entity. Ostrom has even gone so far as to suggest "a broadening [of] criteria for tenure, at least in the United States" because "our tenure system encourages some scholars to think of only their individual silo and not the meadow" (May 29). Interestingly, there appears to be a disconnect among reviewers of *Governing of Commons* as to whether Ostrom infiltrated economics or if economics infiltrated Ostrom. As often as Lin Ostrom is criticized for commandeering the economics name, economics is said to perform "economic imperialism" (Fine 583). Economists themselves have

disagreed whether they infringe on other social studies or if Elinor Ostrom infringed on their territory. Some contemporaries understood Ostrom's hybrid method to be a result of her research question. Prof. Baumgartner says "she picked perhaps the biggest issue of her day, the relation between states and markets and she came firmly to a conclusion no one liked: Neither should be trusted alone" (Baumgartner 575). This focus allowed her to focus on a "set of concerns had the consequence of placing her work in the crosshairs of an ideological divide as powerful as any in modern politics" (Baumgartner 575).

Often times, especially within print news coverage, economists benefit from Lin Ostrom's associations with Garrett Hardin. Many understand the origination of 'the commons' in the journal *Science* by a "crazed" ecologist to still be adequate reason to disown the later works of Elinor Ostrom. For instance, in the *New York Times* the year of Ostrom's award, columnist John Tierney states "the 2009 Nobel Prize for economics is a useful reminder of how easy it is for scientists to go wrong, especially when their mistake jibes with popular beliefs or political agendas" before immediately critiquing the arguments presented in Garrett Hardin's essay "The Tragedy of the Commons." (Tierney, "The Non-Tragedy of the Commons").

Ostrom reached academic fame, even attaining salience through a famous attributable quote – also known as Ostrom's law - "a resource arrangement that works in practice can work in theory." Even this, her famous quote, contains subtle recognition and chastising of her peers, such as Garrett Hardin or game theorists, who do not have her fieldwork sensibility.

Application Potentials

Ostrom's focus was on common-pool resources. However, applications of her work range tremendously. The Workshop she founded at Indiana University continues to carry her work forward, funding both graduate work and PhD work in fields concerning governance. Many reviewers of *Governing the Commons* have found their own use for her findings.

Professor Keohane rescaled her work to apply to planet earth, the same scale by which Garrett Hardin had viewed the commons. He did so in order to examine it for environmental impact, reflecting his belief that "all life depends on a larger commons: the earth and its atmosphere"(Keohane 577). Environmental regulation has become more front-of-mind since her publishing of *Governing the Commons* in 1990, making her book more relevant throughout the years. When Ostrom wrote her great work, "human beings were unaware of the dangers to the atmosphere posed by climate change; most of us now have been exposed to the enormous amount of evidence indicating that the earth's atmosphere is becoming warmer as a result of human emissions of carbon dioxide and other greenhouse gasses" (Keohane 577). Keohane believes there exists a "malady of underprovision/overuse" that equally "afflicts the traditional village commons and the earth's atmosphere" (Keohane 578).

Furthermore, Keohane believes employing the commons is the most appropriate way to study stateless terror units. He particularly points to stateless Islamic terrorism's effect on non-radical Muslims can be better understood by viewing the problem through a "commons outlook." In this way, the majority, non-radical population of Muslim people around the world are suffering instability of reputation and, often times, of regional peace due to the actions of only a few. National security analysts, in assessing threats remote

and stateless threats, could also benefit from analysis using a commons outlook. Clearly, the traditional method is failing to adequately interpret threats and cultural groupings.

Professor Schultz makes use of the commons to analyze American business's environmental impact. In order to shift the underlying way in which resource usage is examined from the current, traditionally economic model, to the commons requires private business to shift as well. Prof. Schultz examines "the extent which business activities, marketing plans, and consumer products are commons-friendly, that is, the extent to which they work toward sustaining commonly shared natural resources" (Schultz 1). She follows by calling for "a synthesis for analysis of commons- related problems as a guide to action encouraging their resolution" between business interests, the resource extractors, and the social scientists (Schultz 1). Prof. Schultz believes in applying the research in the most realistic fashion, thus she set her sights on private business enterprises who control supply and demand of resources in the modern economy.

Professor Dennis Axelrod believes viewing the internet as the commons could lend itself to a more profound understanding of how to regulate it. In this instance, he particularly focuses on "cyber riots," otherwise known as DDoS attacks, made famous by hacking groups such as Anonymous (Axelrod 582).

Ostrom's work has even applied to humankind's next great frontier, outer space. Governments around the world are currently "pursuing policy initiatives that they hope will help them achieve the long-term sustainability of the space environment and humanity's activities in space" (T. Chow). By viewing space as a commons and "applying

previous scholarly research to this discussion, policy makers can gain insight into possible ways forward in their pursuit of space sustainability" (T. Chow).

Ostrom's Contribution to World Politics

Although Ostrom clearly focuses on local issues, in lieu of examining national or international units, she still contributed to world politics. Her work is inherently critical of "many interventions from national and regional authorities as interfering with locally organized cooperation" (Keohane 577). Ostrom does so without directly using anything other than small communities for her case studies. Despite her intentional distancing from global organizations, Professor Keohane believes *Governing the Commons* "is potentially an important contribution to the study of world politics" (Keohane 577).

Personality: Charisma, Inclusivity

Struggles in the forms of gender bias and economic territorialism did not dissuade Ostrom so much as they spurred her onto greatness and inclusivity. Her findings are acclaimed as much as her process. One specific instance of her push towards inclusivity of gender and disciplines is her founding of the Workshop for Political Theory and Policy Analysis with her husband, Vincent, in 1973. Many former research associates, assistants, and colleagues corroborate this by speaking extremely highly of her. Ostrom's positivity is most often noted in her interpersonal interactions, not in her writing. Upon reading many of her works, it was evident that she maintained a strictly academic tone so as to avoid any possible criticism.

However, analysis of Ostrom's findings suggest she had an incredible trust and belief in humans' decision making and problem solving. She believes that "the costs of

centralization" is directly related to "people's capacities for self- government" (Bermeo 571). "It can and will be read in many ways, but I read it primarily as a celebration of human capability. Though its celebratory message is certainly muted by both the abstract language of game theory and the author's wholly unsentimental approach to her research question, the study provides a vivid parade of evidence showing that the problem-solving capability of ordinary people has been underestimated by social scientists and policymakers alike" (Bermeo 571).

Interdisciplinary

Political economics, in and of itself, is cross-disciplinary. This is reflected in many reviews of *GTC.* Prof. Dennis Axelrod specifically calls *GTC* "an outstanding example of interdisciplinary research, and a particular example of how much the discipline of political science has to offer other disciplines" (Axelrod 580). The goal of Ostrom's overall work is "twofold: to advance the field but also to stimulate the work of others" (Levi 573). One example is given by Prof. Margaret Levi, who says Ostrom "pushed for better research on the role of trust and reciprocity in social order" (May 2). May also says that Ostrom's participation in the Russell Sage Foundation Trust project shows how she "explored these issues collaboratively through workshops and an edited volume of cross-disciplinary experimental findings" (Levi 573). Ostrom's vision was to "emphasize cooperation over competition, embrace transdisciplinary approaches, and encourage methodological pluralism" (May 2).

Conclusion

Elinor Ostrom achieved much more than her Nobel Prize. Ostrom overcame a myriad of struggles, both small and large. She combined successfully combined "her feet-on the-ground observations" with "the heads-in-the-clouds theorizing" to create a "transforming effect on both practical communities seeking answers to complicated problems and on intellectual communities with their own serious fault lines" (Baumgartner 577).

Ostrom and Hardin developed reputations as some of the most incredibly decorated, dedicated, and influential thinkers of the 20th century. Both intellectuals played a part in steering the local, national, and global conversation about how humans manage one another and their resources, emphasizing the commons. They both found great importance in understanding the way humans interact within groups to better preserve and sustain life on earth. Although a casual observer would have difficulty understanding the differences between the two together, these late professors differ vastly in their approaches to analyzing data and communicating their results. On one end of the thought spectrum sits Garrett Hardin, a "Taboo Slayer." His grandiose premises, divisive solutions, and aggressive delivery transform his conversation with the reader into heated debate. His views on the world are at times theatrical, but never so ridiculous as to defy logic. On the opposite end sits Elinor Ostrom, who is remembered kindly for her "collaboration, contestation, and love" (Herzberg 1). This dispositional difference is simply illustrated in the titles of their primary works – "The Tragedy of the Commons" by Hardin versus *Governing the Commons* by Ostrom. The texts behind these titles further reveals the respective differences.

Ostrom's work is primarily technical - full of models, game theory explanations, and case studies. However, the first chapter of the six that comprise *Governing the*

Commons solely speaks directly to what *GTC* should not be mistaken as. The first chapter, titled "Reflections on the Commons," specifically addresses and diffuses Hardin's precedent. This nod towards Hardin is completely unreciprocated, Hardin hardly ever mentions an academic contemporary. The sheer presence of this chapter is important in and of itself. "Reflection on the Commons" demonstrates Ostrom's battles and frustrations on multiple levels. First, it represents her struggle to carve a space for the legitimate study of Political Economy and Common-pool Resources; she needed to speak to traditional economists. Her need to distance herself from Hardin in deliberate fashion, despite the wholly unique findings her book details with hundreds of pages, also speaks to a more casual, non-specialist audience . The first 23 pages of *Governing the Commons* is one of the most complete and clear-headed descriptions of the body of work pertaining to "the commons."

While Ostrom and Hardin differ on a myriad of other qualities and topics, reception of their life's work varies considerably. Topically, Ostrom's Nobel Prize legitimized both her work and the study of common-pool resources. Before her award, the commons and common-pool-resources were the third party in a bipartisan academic system, left to jockey for a small amount of attention. As Clemson Professor Robert Tollison writes, "before Elinor Ostrom a commons was treated like the black hole of an economy" (Tollison 325). Thinking about the commons was left for whimsical, zany, and crazed UC Santa Barbara professors to predict the end of the world, or in other words, Garrett Hardin. However, the results from the award have been underwhelming. Now that the commons has been lent proper support, it must be explored and understood. After all,

despite their many differences, both academics agree there are implications of the commons that must be solved.

A popular focus concerns the "population problem" and pollution. Thomas Malthus proposed the idea in 1798, claiming geometric population growth would outpace arithmetically increasing food production. To this day, Malthus receives large amounts of ire from the academic community. Ostrom even begins *Governing of the Commons* by saying "hardly a week goes by without a major news story about the threatened destruction of a valuable natural resource" (Ostrom 1).

A great pool of knowledge and opinion between Elinor Ostrom (d. 2012) and Garrett Hardin (d. 2003) exists. However, it is clear that each professor's past, personality, and communication skills impacted proliferation of this new concept of "the commons." In order to fully understand the commons, one must learn about the proponents of the concept. The "taboo" surrounding common-pool resources' vagueness demanded highly motivated, exceptionally dedicated people to solve and communicate results. A look into the tales of Elinor Ostrom and Garrett Hardin is important to understanding their works, ideas, and influence. Utilizing audio and video of interviews online, reading numerous primary texts, and studying lecture transcripts maximize one's understanding of each professor's voice and personality. By conjoining two unique views gained through these studies, the obscurity of "The Tragedy of the Commons" is made more transparent and digestible.

Importantly, Ostrom took issue with Hardin for a different set of reasons than most. At the time of publication, she was concerning herself with a number of case studies pertaining to city water basins, police force hierarchies, and other institutions. Through

her fieldwork, she gained appreciation for the multitude of factors that can create institutions and believed that Hardin's base example, a British grazing field, was oversimplified and far from all encompassing. Ostrom never wished for Hardin's metaphor to be relegated to little importance. She is quoted as saying, "if only the 'commons' of importance were a few grazing fields or fisheries, the tragedy of commons would be of little general interest. That is not the case. (Ostrom, 1990). However, despite their differences, Ostrom had a unique ability to remain respectfully skeptical, disseminating important points of Hardin's work. This enabled her to include Hardin's arguments within *Governing the Commons* as a benchmark in the timeline of her research. This is congruent with her lifelong attitude, "a foundation of teamwork, equality, and the deep personal regard for each other allows for intellectual debate, reflection, and change" (Herzberg 265).

Throughout her life, Ostrom demonstrated a love for teamwork within problem solving. She remained amiable "in contrast to the stereotype of elitist academics" by respecting "every person for what he or she contributed, not from an ideal, but from recognizing what worked" (Herzberg 267). She believed implementation of a uniform system of research would link analysis by multiple disciplines of human economic interaction. This system would then serve as a standardized research metric that interested parties could use to share and build off of one another's contributions. Her desire to continue amassing and analyzing case study data led to her founding of The Vincent and Elinor Ostrom Workshop in Political Theory and Policy Analysis. This organization continues collecting and synthesizing data to today due in large part to her donation of her Nobel winnings.

Hardin, too, left the academic world better than he found it. As a teacher of biology early in his career, Hardin strived "to make the ideas of others clear, both to students and to the general public" (Bajema 195). He did so by emphasizing critical thinking within science. After writing a textbook *Biology: Its Human Implication* in 1962, he became a leader in popularizing teaching biology, among other sciences, through the scientific method. Hardin's biology background also explains his admiration of natural selection and respect of tragedy, which he describes as "the solemnity of the remorseless working of things" (Hardin 1244).

However, Hardin's umbrella theory and Ostrom's building blocks of quantitative analysis both leverage a strong belief in game theory. Hardin believed a resolution to "The Tragedy of the Commons" lay within educating each rational individual within the system to use critical thinking and to understand game theory. He cursed Adam Smith's 'invisible hand' saying that it contributed to "a dominant tendency of thought that has ever since interfered with positive action based on rational analysis, namely, the tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society" (Hardin 1244). Elinor Ostrom phrases the same sentiments more clearly by saying "the paradox that individually rational strategies lead to collectively irrational outcomes seems to challenge a fundamental faith that rational human beings can achieve rational results" (Ostrom 5).

Elinor Ostrom's life represented great change. Ostrom changed academics, especially in the field of economics. She did so through dedication to empirical research, faith in the rational actor, hard work. She did so in spite of gender barriers to entry into

higher education. While Garrett Hardin became a thorn in Ostrom's side, his presence ultimately pushed her toward and prepared her for greatness.

No matter the degree of feasibility of their theories in practice, it is an undeniable fact that Hardin and Ostrom directed a major change in the economic conversation over the last century. By examining their ideas, personal lives, successes, and failures against one another, a greater awareness and understanding of the commons was achieved. Elinor Ostrom's contribution to academia was two-fold. By establishing the legitimacy of the commons and ensuring its endurance through her Workshop, she has provided a new means to examine and study humankind's newest and greatest problems. Furthermore, by overcoming gender barriers throughout her career, she has opened the door to future women in the field of economics, political science, and political economy.

Works Cited

Adler, Johnathan. "Property Rights and the Tragedy of the Commons." *The Atlantic*. Atlantic Media Company, 22 May 2012. Web. 13 Oct. 2016.

Bajema, Carl Jay. "Garrett James Hardin: Ecologist, Educator, Ethicist and Environmentalist." *Population and Environment* 12.3 (1991): 193-212. Web.

Isaac, Jeffrey C. et al. "Beyond the Tragedy of the Commons A Discussion of Governing the Commons: The Evolution of Institutions for Collective Action." Including: Nancy Bermeo, Margaret Levi, Robert O. Keohane, Frank R. Baumgartner, Robert Axelrod, Ben Fine, Peregrine Schwartz-Shea, Jane Mansbridge. *Perspectives on Politics*, vol. 8, no. 2, 2010, pp. 569–593. http://www.jstor.org/stable/25698619.

Herzberg, Roberta, and Barbara Allen. "OBITUARY: Elinor Ostrom (1933—2012)". *Public Choice* 153.3/4 (2012): 263–268.

Hofmann, Klaus. "Beyond The Principle Of Population: Malthus's Essay." *European Journal Of The History Of Economic Thought* 20.3 (2013): 399-425. Academic Search Complete. Web. 13 Oct. 2016.

Holden, Constance. "Tragedy of the Commons' Author Dies." *Science*, vol. 302, no. 5642, 2003, pp. 32–32. http://www.jstor.org/stable/3835249.

Leeper, E. M. "A Chat with Garrett Hardin: Master of Metaphor Expands 'Commons' Thesis." *BioScience*, vol. 26, no. 12, 1976, pp. 785–787. www.jstor.org/stable/1297518.

Lloyd, William Foster. "W. F. Lloyd on the Checks to Population." *Population and Development Review*, vol. 6, no. 3, 1980, pp. 473–496. www.jstor.org/stable/1972412.

Malthus T.R. 1798. An Essay on the Principle of Population, in Oxford World's Classics reprint. p 61, end of Chapter VII

May, Ann Mari, and Gale Summerfield. "Creating a Space Where Gender Matters: Elinor Ostrom (1933-2012) Talks with Ann Mari May and Gale Summerfield." *Feminist Economics* 18.4 (2012): 25-37. Web.

Mitchell, William. 1988. "Virginia, Rochester, and Bloomington: Twenty-five years of Public Choice and Political Science." *Public Choice* 56 (2): 101-119.

Myerson, Roger B. (1991). *Game Theory: Analysis of Conflict*, Harvard University Press, p. 1. Chapter-preview links, pp. vii–xi.

"2009 Nobels: Break or Breakthrough for Women?" *Science*, vol. 326, no. 5953, 2009, pp. 656–658. www.jstor.org/stable/40328509.

Ostrom, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge: Cambridge UP, 1990. Print.

Radkau, Joachim. *Nature and Power: A Global History of the Environment*. Washington, D.C.: German Historical Institute, 2008. Print.

Shultz, Clifford J., and Morris B. Holbrook. "Marketing and the Tragedy of the Commons: A Synthesis, Commentary, and Analysis for Action." *Journal of Public Policy &Amp; Marketing,* vol. 18, no. 2, 1999, pp. 218–229. www.jstor.org/stable/30000542.

Smith-Gary, Laura. "Elinor Ostrom Awarded Nobel Prize for Economics." *The Princeton Climate Dispatch*. N.p., 13 Dec. 2009. Web. 3 Oct. 2016.

Tierney, John. "The Non-Tragedy of the Commons." *The New York Times*. The New York Times, 15 Oct. 2009. Web. 05 Oct. 2016.

Tollison, Robert D. "Elinor Ostrom and the Commons." *Public Choice*, vol. 143, no. 3/4, 2010, pp. 325–326. www.jstor.org/stable/40661027.

United Nations Secretariat, Department of Economic and Social Affairs, *The World at Six Billion* (1999), p.8

Chow, T., and B. Weeden. *An Introduction to Ostrom's Eight Principles for Sustainable Governance of Common-Pool Resources* (n.d.): n. pag. Secure World Foundation. Web.

Zehr, Brad and Biz Carson. 2009. ''Ostrom Becomes First Woman to Win Nobel Prize in Economics.'' *Indiana Daily Student*, October 13. http://www.idsnews.com/news/NewStoryPrint.aspx?id.70924 (accessed August 2016).